

REMARKS

STATUS OF THE CLAIMS

Claims 3-19 are pending in the application.

Claims 3-15 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (U.S. Patent No. 5,555,362) in view of Ohsawa (U.S. Patent No. 4,876,610), Wada (U.S. Patent No. 5,949,922), and Edgar (U.S. Patent No. 5,266,805).

Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (U.S. Patent No. 5,555,362) in view of Ohsawa (U.S. Patent No. 4,876,610), Wada (U.S. Patent No. 5,949,922), Edgar (U.S. Patent No. 5,266,805), and Graham (U.S. Patent No. 5,222,154).

Thus, claims 3-19 remain pending for reconsideration, which is respectfully requested.

No new matter has been added.

REJECTIONS

Entry and consideration of the remarks is respectfully requested, because it is believed that the remarks clarify the patentably distinguishing features of the present invention over the relied upon references without requiring further search to place the application in condition for allowance.

The independent claims are 3, 18 and 19, which are rejected over Yamashita, Ohsawa, Wada and Edgar. Edgar is newly cited, and, thus, newly relied upon. Therefore, the Office Action maintains from the previous Office Action the rejections over Yamashita, Ohsawa, Wada.

Yamashita is generally relied upon for the concept of combining a binarized halftone dot image and a binarized line drawing/character image to output a binary image (Abstract). Ohsawa and Wada are generally relied upon for the claimed present invention's concept of eliminating erroneously recognized halftone dots based upon halftone dot density information calculated according to center of gravity of halftone dots. Edgar is newly relied upon for the claimed present invention's concept of halftone dot image binarization unit while suppressing input read errors by optimizing a value of a target pixel to be binarized (i.e., "a halftone dot image binarizing unit that ***binarizes an input image corresponding to the halftone dot image area map created based upon the eliminating the erroneously*** recognized halftone dot, ***while***

suppressing input read errors occurred when said input unit inputs the binary image ***by optimizing a value of a target pixel to be binarized***, and generates a binarized halftone dot image,” e.g., claim 1).

Applicants respectfully disagree with the Office Action rejection rationale as follows:

Regarding Ohsawa’s column 4, lines 35-67, which is relied upon in the Office Action, it discloses using density between the central pixel and surrounding pixels to discriminate between character and screen dots versus photograph and background dots. Also, Ohsawa discloses calculating the difference between the maximum and minimum values of the image data in an mxn pixel block for such discrimination. However, Ohsawa’s description differs from the claimed present invention’s, “***center-of-gravity information*** about centers of gravity of halftone dots” and “***calculating a halftone dot density in a given area by referring to the center-of-gravity information*** in the list of halftone dot information.” In other words, Ohsawa’s density information is not based upon center-of-gravity information.

So the Office Action relies on Wada’s center of gravity calculation. However, Wada discusses how to calculate center of gravity information, but fails to disclose or suggest the claimed present invention’s, “***calculating a halftone dot density in a given area by referring to the center-of-gravity information*** in the list of halftone dot information.” In other words, Wada does not discuss using the center of gravity information to calculate a halftone density in a given area.

There is no motivation to combine Ohsawa and Wada.

MPEP §706.02(j) sets forth a guideline on the contents of a rejection under §103: “To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143-2143.03 for decisions pertinent to each of these criteria.” Factual findings in support of a *prima facie* case of obviousness must be supported by substantial evidence. See generally, In re Zurko, 59 USPQ2d 1693, 1696 (Fed. Cir. 2001).

See, MPEP 2143.01. "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." In re Rouffet, 149 F.3d 1350, 1357; 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however, without a motivation to combine, a rejection based on a prima facie case of obvious was held improper)." In particular, "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." In re Fine, 837 F.2d 1071, 1075, 5 USPQ 2d 1596, 1600 (Fed. Cir. 1988). See W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983) ("To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher").

The Office Action rejection rationale picks and chooses isolated disclosures in the prior art to allege obviousness of the claimed present invention, when both Ohsawa and Wada fail to provide any suggestion or desirability to be combined with each other and/or to be modified, because even if combined, without modification such a combined system would not achieve the claimed present invention, to provide the claimed present invention's, "***eliminating an erroneously recognized halftone dot*** according to a process, comprising: ***calculating a halftone dot density in a given area by referring to the center-of-gravity information*** in the list of halftone dot information." Wada discusses how to calculate center of gravity information starting in column 12, line 54 as part of Position Error Measurement Operation, but Wada fails to disclose or suggest the claimed present invention's, "***calculating a halftone dot density in a given area by referring to the center-of-gravity information*** in the list of halftone dot information" to "***eliminating an erroneously recognized halftone dot.***" Wada discloses a noise removal method in column 20, line 52 with respect to the measuring chart 10 (FIG. 3), however, Wada's noise removal is concerned with dust or flaw on the measuring chart 10 of the image reading apparatus when image reading position error measurement based upon center of gravity is performed ("In a case where dust or a flaw is present in the measuring chart 10, noise occurs when the image reading position error measurement is performed" column 20, lines 52-55 and column 12, lines 54-67). Wada is silent on the claimed present invention's, "***eliminating an erroneously recognized halftone dot according to ... calculating a halftone dot density in a given area by referring to the center-of-gravity information.***"

Further, Ohsawa discusses an error dispersion method to discriminate between characters (edge portions) and photographs (non-edge portions) based upon “comparing the absolute value of difference in density between the central pixel and surrounding pixels, with a threshold value, as shown in FIG. 5B,” but Ohsawa is silent on any type of error processing with respect to recognized halftone dots (column 3, lines 50-53). Contrary to the Office Action rationale in page 5, it is readily apparent that Ohsawa’s edge and non-edge discrimination differs from the claimed present invention’s elimination of erroneously recognized halftone dots. In other words, the claimed present invention, as expressly recited in the present claims, is ***“deleting corresponding halftone dot information from the halftone dot information list, when the halftone dot density does not meet a given condition.”***

The Office Action, in page 8, 2nd paragraph, generally acknowledges that Yamashita, Ohsawa and Wada fail to disclose the claimed present invention, so the Office Action relies on Edgar. Edgar relates to “compensating for effects of storage media defects on image data retrieved therefrom” column 3, lines 40-46).

Edgar in column 5, lines 63-67 and column 6, lines 46-58, which is relied upon in the Office Action, on page 9, discusses:

In accordance with the invention, a mechanism such as a color wheel or the like (shown conceptually as a prism 18) will be employed to separate the information comprising the image 14 and imperfections 16 into a plurality of individual records, each associated with a different portion of the electromagnetic spectrum. Specifically in sequence infrared 20, red 22, green 24, and blue 26 images of the film 12 are captured.

Further, Edgar in column 6, lines 49-58 discusses:

Specifically, as shown conceptually by the additive processes 28 30, and 32, and subtractive process 34, each red green, and blue image is added together resulting in the improved image 36. However, the infrared image or “map” of the undesirable imperfections 16 are utilized with respect to each of these visual images 22-26 to effectively mathematically subtract out (as shown by process 34) the undesirable affect of these imperfections 16 on each of the records in the visual spectra.”

However, it is readily apparent that Edgar’s additive processes 28, 30, 32 and subtractive process 34 based upon the infrared record 20 differs from the claimed present invention’s, ***“eliminating an erroneously recognized halftone dot according to ... calculating a halftone dot density in a given area by referring to the center-of-gravity information”*** and/or differs

from the claimed present invention's, "a halftone dot image binarizing unit that **binarizes an input image** corresponding to the halftone dot image area map created **based upon the eliminating the erroneously** recognized halftone dot, while **suppressing input read errors occurred when said input unit inputs the binary image by optimizing a value of a target pixel to be binarized**, and generates a binarized halftone dot image." Further, it is readily apparent that Edgar fails to disclose or suggest, "**optimizing a value of a target pixel to be binarized.**"

It is readily apparent that Yamashita, and in particular, Ohsawa, Wada and Edgar cannot serve as a source for a motivation to be combined and modified to achieve the claimed present invention, because as discussed herein a nature of the problem to be solved in Ohsawa, Wada and Edgar differs from the claimed present invention, the teachings of Ohsawa, Wada and Edgar differ from the claimed present invention, and the Office Action fails to provide evidence other than Ohsawa, Wada and Edgar that knowledge of persons of ordinary skill in the art would motivate modification of these references to render obvious the claimed present invention.

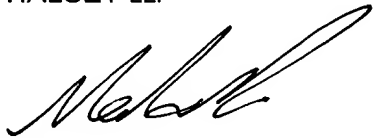
Accordingly, the relied upon references fail to disclose or suggest the claimed present invention and the claimed present invention is allowable over the relied upon references. In view of the remarks, withdrawal of the rejection of pending claims and allowance of pending claims is respectfully requested.

CONCLUSION

If there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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